

CONTINUATION OF EXISTING MANAGEMENT ALTERNATIVE

This alternative would maintain the present management direction to resolve issues, while responding to the requirements of new regulations and changing policies. Resource development or other activities would remain similar to those at the time this plan was prepared.

Minerals

Coal

In the short term, the coal resource (40,000 tons) at existing mine locations in the Bull Mountains is expected to be depleted, unless an emergency production maintenance lease is issued.

Oil and Gas Leasing

A previous planning document (Big Horn Management Framework Plan (MFP)) allows oil and gas leasing within the Pryor Mountain Wild Horse Range, but recommends a "no surface occupancy" stipulation to any issued lease. This would prevent a lessee from enjoying his lease and dictate that he directional drill from outside the horse range.

Classifications

The three C&MU Act classifications segregate 28,586 acres of the Pryor Mountain area against locatable mineral location (see Figure 1.2). This decreases the incentive to prospect for minerals in that area, since no mining claims may be located to protect the prospector's right to his mineral discovery.

Wilderness

In the short term, mineral exploration is restricted within the four wilderness study areas (WSAs) and wilderness study units (WSUs). This restriction is only significant in the Twin Coulee WSA, where two companies have located 166 lode mining claims. Their exploration activities will not be allowed to impair wilderness suitability. This may constrain their use of mechanized equipment in the WSA. There would be no restraints from wilderness in the long term.

The three WSAs and WSUs in the Pryor Mountains have been segregated against mineral entry, as described above. A few claims predate the segregations. Since these claims also predate the Federal Land Policy and Management Act of 1976 (FLPMA), the mining claimant could impair wilderness suitability, though unnecessary or undue surface degradation would not be allowed.

Conclusion

The coal resource within the current Federal lease area in the Bull Mountains is expected to be depleted in the short term, unless the company is able to obtain an emergency production maintenance lease. This depletion would be insignificant.

Mineral location is prohibited over a large portion of the Pryor Mountains, including all of the wild horse range. This reduces the incentive to prospect for locatable minerals. Oil companies may not seek leases where no surface occupancy is stipulated.

Oil and gas exploration and mineral prospecting in the Twin Coulee WSA could be allowed and may be restricted, since these activities may impair wilderness suitability. This may increase the cost of exploration if directional drilling is required or other prohibitions are stipulated. In the short term, these actions would result in minor impacts to those individuals or companies involved and are considered insignificant.

There would be an irreversible and irretrievable loss of coal oil, gas and other non-renewable resources to the extent that these resources are developed in this alternative.

Soils/Watershed (Erosion and Runoff)

Grazing Management

This alternative would slowly improve watershed conditions due to existing and proposed grazing treatments. There are 28,383 acres of problem areas identified in Table 2.1. Since this alternative calls for no vegetative manipulation, erosion and runoff would continue to increase in these problem areas. Approximately 21,250 acres of sagebrush occurs in soil groups ONE and THREE. Water erosion susceptibility would vary from moderate to high for the sagebrush acreage and erosion by wind would remain severe. Surface water runoff potential for the sagebrush acreage would vary from medium to very rapid, and would average 1,391 acre-feet annually.

There are 6,818 acres of native and crested wheatgrass range in need of mechanical treatments in Geomorphic Soil Groups ONE, TWO, and THREE. Susceptibility to water erosion for the native range and crested wheatgrass would vary from slight to high, and wind erosion would vary from moderate to severe. Runoff potential for the native range and crested wheat range would remain medium, and would average 495 acre-feet annually.

Wild Horse Management

The soils in the Pryor Mountain Horse Range are categorized into soil group FOUR. Erosion susceptibilities would range from slight to high for water and moderate to severe for wind. Runoff potentials would vary from slow to medium, and would average 7,057 acre-feet annually.

Timber Management

Timber harvesting would occur on loamy soils in groups FOUR and ONE. During and immediately following harvesting, water erosion susceptibilities would vary from moderate to high. Runoff potentials would be medium. Twenty acres would be harvested in this alternative each year, and annual runoff would increase by 0.4 acre-feet during and immediately following timber harvesting. Potential hazards such as increased runoff and erosion are minimal due to the small land areas being harvested.

Soils/Watershed (Water Quality and Streambank Protection)

Grazing Management

Water quality problems such as high suspended and total dissolved solids would decline. Forty-one miles of woody floodplain type, including some streambanks, would be monitored and maintained or improved by proper grazing systems.

Wildlife

The construction of 20 waterfowl nesting islands can cause short-term negative impacts to reservoir water quality. Suspended solids and turbidity would increase due to runoff from exposed soils on islands and damaged shoreline areas.

Conclusion

Grazing management under this alternative would improve watershed conditions significantly with the exception of the 28,585 acres in need of vegetative manipulation. Within these areas, erosion susceptibility and runoff potential would remain moderate to severe and medium to very rapid, respectively. Wild horse management would benefit watershed conditions significantly since water erosion susceptibility would vary from slight to high, and runoff potential would vary from slow to medium. Due to the small area proposed for timber harvesting, the impacts to watershed would be minor. Average annual runoff could increase by 0.4 acre-feet in the cutting areas in the short term.

Water quality and streambanks would improve under this alternative. Short-term impacts to reservoir water quality would be negative due to waterfowl nesting island construction. These would be insignificant in the long term.

The loss of soil in this alternative due to erosion would be irretrievable but not irreversible. There would be no irretrievable or irreversible loss of water resources.

Vegetation

Actions under this alternative would be directed primarily toward the 22 "I" category allotments.

Grazing Management

Actions proposed under this alternative would not significantly impact vegetation on any of the "M" and "C" allotments. On 18 of the 24 implemented allotment management plans (AMPs), grazing systems would be maintained and areas that are in good range condition would remain as such. Sixteen of these AMPs are in the "M" category and two are in the "C" category. Trend studies and observations on current AMPs indicate an upward trend on 7, and static trend on 17. On the remaining 353 allotments, some changes could occur in "M" and "C" allotments in this alternative but cannot be quantified for the following reasons: (1) "M" category allotments would be monitored to ensure existing conditions did not decline; and (2) current condition data is not available for most of the "C" allotments (see Appendix 1.8 for a summary of current range conditions by category).

Impacts to vegetation from grazing management are best measured and quantified through change in vegetative composition. Ecological range condition is determined by comparing the present composition of plants within the community, with that found in a climax community. This affects the amount and quality of forage produced. Following is a summary of changes that would potentially occur in this alternative based on the Ecological Site Analysis procedure.

Acres maintained in excellent condition: 3,553
Acres maintained in good condition: 29,060
Acres maintained in fair condition: 14,725
Acres maintained in poor condition: 1,495
Acres maintained in crested wheat: 5,118
Acres maintained as rock outcrops: 3,839
Acres improved from good to excellent: 2,995
Acres improved from fair to good: 21,436
Acres improved from poor to fair: 5,458
Total Acres: 87,679

The primary reason there would be no improvement in the 16,220 acres of fair and poor condition range is that approximately 14,120 acres are covered with dense sagebrush that inhibits the response to grazing management. The remaining 2,100 acres are soils that respond slowly or extremely slowly to grazing management.

Only those improvements required to implement the prescribed grazing treatments on the "I" allotments would be installed. The construction of four reservoirs would result in the loss of approximately 10 acres of vegetation. Overuse and trampling would also occur around these reservoirs. This would result in an insignificant loss of vegetation as compared to the improved range condition. Twenty-one miles of pipeline construction would cause a minor short-term disturbance. The disturbed area would be confined to approximately 2 feet on each side of the pipeline trench and natural revegetation would occur within 2 to 5 years, based on BLM experience with water pipeline construction and rehabilitation. The 19 proposed water catchments would result in approximately 19 acres taken out of production, reducing available forage by an insignificant amount.

The 9 wells and 13 miles of fence would not significantly impact vegetation.

Structural improvements, though not having a direct significant impact on vegetation, would have an indirect positive impact on vegetation when placed in the proper locations. Vegetation can be adversely affected where improperly located range improvements cause livestock concentrations, trailing and overuse.

The 1981 Ecological Site inventory on the Pryor Mountain Wild Horse Range indicated that 2,775 acres are in good range condition, 12,498 acres in fair, 7,900 in poor and the remaining 15,040 are unsuitable for wild horse grazing. It is anticipated that controlling horse populations at the initial stocking level (approximately 121) and improving grazing distribution by controlling their access to water sources would allow a slow upward trend in range conditions. The 1971-1972 Ocular Reconnaissance Range Survey indicated that the 6,083 acres of the PMWHR in Wyoming were in fair and poor range condition. These conditions are anticipated to remain the same because of soil conditions.

The current ecological conditions for that portion of the PMWHR in Montana would be maintained with a slow upward trend. Since yearlong use would continue without a planned sequence of rest or deferment, and current conditions and site potential are low over most of the range, no significant change is expected to occur in the range condition ratings in the long term.

Wildlife

Constructing 12 water catchments would result in a total disturbance of 3 acres of vegetation. Fencing 7 reservoirs and 10 acres of riparian areas would improve vegetative condition to good or excellent on a total of 30 acres. The construction of 20 waterfowl nesting islands would have no effect on vegetation. In order to be effective, they must be located in an area that is normally flooded by the reservoir.

Timber Management

Harvesting 45 thousand board feet (MBF) of timber per year would result in minor losses of native vegetation due to skidding and potential off-road vehicle use. However, this practice would allow for an increase of grasses and forbs and some natural reproduction of tree species in the long term.

Conclusion

Grazing management would be the only method used to improve unsatisfactory range condition under this alternative. A summary of the expected vegetative response is listed in the preceding Grazing Management section.

Wild horse management would maintain the current ecological condition with a slow upward trend.

Wildlife and timber management proposals would have an insignificant effect on vegetation.

There would be no irreversible or irretrievable loss of vegetation resources in this alternative.

Livestock

Grazing Management

The numbers of livestock or season of use would not be altered on any "M" or "C" allotments, thus causing no impacts to the livestock in these allotments. Rotational grazing treatments would increase stress on livestock slightly on the 16 new "I" allotments proposed for Allotment Management Plans. However, an increase in forage available, resulting from the grazing systems, would offset this stress.

Additional fencing and the construction of watering facilities would improve livestock distribution. This would reduce livestock stress by eliminating the need to trail long distances to and from water sources. Improved livestock distribution would also increase forage which, in the long term would increase AUMs available to livestock.

The presence of old growth vegetation can help reduce scours and grass tetany which are both aggravated by an abundance of fresh green grass.

This alternative would result in an increase of 2,200 AUMs (short term) and 3,120 AUMs (long term) which would be potentially available to livestock (see Appendix 4.2, Methodology for Grazing Management Response).

Oil and Gas

Exploration, development and production of oil and gas would have minor impacts on livestock through harassment.

Conclusion

This alternative would result in a moderate significant increase of 2,200 AUMs (short term) and 3,120 AUMs (long term) which would be potentially available to livestock.

There would be no irretrievable or irreversible loss of livestock resources in this alternative.

Wild Horses

Wild Horse Management

Controlling the availability of water and stimulating better grazing distribution would have a minor impact on the wild and free roaming behavior of the horses.

The current population level of 121 head would be maintained in the short term. The population level is the total number of horses on the range at the beginning of the winter grazing season. Approximately 80% of these horses will be 2 years old or older.

The current sex ratio and age class structure would maintain a healthy, viable breeding population. Improved range condition and a stabilized forage supply would also contribute to a healthy population. If populations were allowed to increase, based on monitoring of forage supply and trend, the level of utilization would still be moderate and a healthy herd would be maintained.

Annual population reductions by live trapping and excessing through the Adopt-A-Horse Program would cause minor short-term disruption of normal wild horse habits and behavior. The horses excessed would be the least desirable from the standpoint of conformation, color and other genetic traits. The result would be a higher quality breeding herd.

Timber Management

In the short term, any timber harvest activity occurring as a result of concern for safety or another resource, would cause the horses to leave the higher timbered elevations. This would impact the lower elevation range because of the heavier grazing pressure and increase the potential for wind and water erosion.

In the long term, selective cutting in heavily timbered areas of the horse range would benefit wild horses and wild horse management. Thinning existing stands would provide an opportunity for growing additional forage for the horses. More open stands reduce the ability of the horses to hide and escape during capture efforts and data collection processes.

Conclusion

Continuation of the present management of the Pryor Mountain Wild Horse Range would have minor insignificant impacts to the wild horses. Timber harvesting would increase the grazing pressure at lower elevations, but in the long term, would increase the overall forage available to the wild horses.

There would be no irreversible or irretrievable loss of wild horse resources in this alternative.

Wildlife

Grazing Management

Proposals associated with the development and implementation of 22 new or revised allotment management plans over 87,679 acres for "I" category allotments would improve wildlife habitat on 21,436 acres over the long term. All new and revised allotment management plans would be developed jointly by the range and wildlife staffs to ensure objectives for both programs are considered and incorporated in a final cooperative management plan.

Constructing 4 reservoirs, 9 wells and 19 water catchment projects would help disperse livestock, improve the range condition and provide additional spring and summer forage for deer and antelope and nesting cover for upland birds, nongame birds and waterfowl. These water sources would also serve as additional watering locations benefiting nongame and upland birds, particularly chukar partridge.

The development and implementation of AMPs over 87,679 acres in 22 "I" allotments would promote better vegetative cover, particularly in the 41 miles of woody floodplain community, reducing sedimentation to ephemeral and perennial streams. Thirteen miles of fence, if

some were placed around watering sources to prevent livestock concentrations and trampling, would benefit those local water bodies and reduce sedimentation, nutrient enrichment and turbidity. The construction of four reservoirs would help distribute livestock use within a watershed, allowing areas of heavy use to slowly recover. Areas immediately around the new reservoirs may be extensively used causing sedimentation problems at those sites. The cumulative impacts would be beneficial over the long term.

Wild Horse Management

Keeping horse populations in balance with available forage would allow improved range conditions for bighorn sheep, mule deer, upland birds and nongame species (see Appendix 4.3).

Water availability is also a major influence in wildlife distribution on the horse range. Five additional watering facilities may expand the bighorn sheep and deer habitat use areas.

Seven miles of fence could cause minor adverse impacts associated with movement within the horse range of the larger ungulates, especially during winter months when there is heavy snow.

Five new watering sources would disperse wild horses to additional portions of their range. This would allow for a slow recovery of areas presently overutilized and reduce surface runoff and sedimentation. Current impacts to Crooked Creek are typically bank sloughing at horse trail crossings and are not expected to change. Maintaining horse population numbers in balance with available forage would have the greatest benefit to reduce aquatic habitat deterioration.

Wildlife Management

Projects such as 12 watering catchments would improve chukar partridge, sharptail grouse, sage grouse and nongame bird habitat. The range used by chukar partridge would expand by 3,800 acres.

Constructing 20 waterfowl nesting islands and fencing or partially fencing 7 reservoirs should improve nesting cover and thus waterfowl production in the long term. Annual production is estimated at 140 ducks (see Appendix 4.4, Methodology for Wildlife Management Program).

Fencing two riparian zones (10 acres) would improve cover and food for upland game and nongame wildlife.

Fencing of approximately 10 acres of riparian habitat and seven reservoirs would enhance adjacent aquatic habitat by reducing livestock trampling and sedimentation. Constructing 20 waterfowl nesting islands may add sediment to those reservoirs and increase turbidity. Riprapping the islands would minimize the erosion caused by wave action.

Timber Management

Proposals to harvest approximately 45 thousand board feet (MBF) on 20 acres would cause a short-term disturbance to a very small segment of the ungulate population, primarily deer, and displace some small nongame species. Opening the tree canopy would promote forbs and browse and enhance deer habitat. Nongame species would also colonize this newly created habitat. If timber harvest were to occur in protected areas, it would benefit game species to the detriment of species favoring old growth or decadent timber stands.

Timber and fuel wood harvest would result in increased sediment yields. Road construction associated with harvest activities would be the greatest single source of sediment, however, proper road design and harvest practices would minimize these impacts. Timber harvest, if implemented as clearcuts, would increase water yields. However, due to the small scale of the proposal it would only affect the headwaters of small watersheds and contributions. Increased sedimentation yields downstream would be negligible. The cumulative impacts associated with timber harvest would be slight.

Coal

The current level of coal mining (one mine) has a very insignificant affect on the available wildlife resources.

Approximately 10,000 tons of coal would continue to be mined annually. This level of mining would disturb approximately 1 1/2 acres annually totalling 6 acres for the life of the mine. This small usage coupled with reclamation would be of minimal impact to wildlife. The movement of equipment and transporting coal would cause more significant impacts (the loss of wildlife habitat and the relocation of some species).

Development of coal in the Bridger/Fromberg area is not expected to adversely impact wildlife, since underground mining would disturb only a small area.

Impacts on aquatic habitat, primarily from developed service roads, parking areas and other surface disturbances may have potentially significant impacts. These impacts would be limited to ephemeral streams, springs and small local bodies of water. This type of aquatic habitat is limited in the Bull Mountains and potential impacts are thought to be few in number and easily mitigated.

Impacts in the Bridger/Fromberg area are anticipated to be insignificant due to the very limited aquatic habitat.

Land Tenure Adjustment

The current level (three land disposals) would not have a significant affect on wildlife habitat. The exchange of public lands for similar, or greater value lands, would result in the acquisition of significant wildlife habitat due to its unsuitability for agricultural purposes.

Classifications

Since surface disturbance activities would cause some loss of habitat and harassment of animals, the 28,586 acres in the Pryor Mountain area segregated for mineral entry will afford some protection to a variety of wildlife.

The lack of surface disturbance would benefit the limited aquatic habitat on and adjacent to the area. This benefit is thought to be minimal.

Recreation Access

Access encourages increased human activity in an area. Some disturbance and relocation of wildlife species would occur when existing access is utilized.

Access would also encourage surface disturbance from people and increase surface runoff and sedimentation into water bodies. This could be a significant problem at popular sites, but overall, it's not anticipated to be significant.

Off-road Vehicle Use

Under this alternative ORV use would result in some increased habitat destruction and harassment of wildlife.

Conclusion

Livestock and wild horse watering facilities could expand wildlife distribution and decrease overall use on key areas. Improved range condition would provide additional spring and summer forage for antelope and deer and increase the food and nesting cover for upland game birds. Stockwater reservoirs would increase waterfowl production and provide potential fisheries. Proper stocking levels of horses would improve wildlife habitat on the Pryor Mountain Wild Horse Range.

The installation of 12 wildlife watering sources would significantly benefit game birds, particularly chukar partridge, by expanding their available range by 3,800 acres. Constructing 20 waterfowl nesting areas would significantly increase waterfowl production. The current level of timber harvest would be beneficial to wildlife (primarily deer) in the long term.

The existing level of coal production in the Bull Mountains would continue to have minimal insignificant impacts on wildlife resources.

There would be no irretrievable or irreversible loss of wildlife resources in this alternative.

Recreation

Grazing Management

Thirteen miles of new fenceline would somewhat restrict the ease of movement of hunters and other recreationists. The proper placement of cattle guards would minimize this impact.

Wild Horse Management

Existing management would result in gradual improvements in range and wildlife habitat conditions. Recreational opportunities such as hunting may also improve gradually.

Wildlife Management

Wildlife management would result in an increase in hunting opportunities through improving wildlife habitat. The development of two fishery reservoirs would enhance warm water fishing opportunities significantly, especially if the reservoirs are located within 80 miles of Billings.

Oil and Gas Leasing

Leasing the PMWHR with "no surface occupancy" stipulated would help preserve the exceptional quality of this area for recreational purposes.

Land Tenure Adjustment

The opportunity for exchanging small, isolated public lands for private lands with greater recreational values would be lost under this alternative.

Classifications

The existing classification status for the Pryor Mountain area protects recreational values from damage caused by mining operations over most of the horse range.

Recreation Access

Members of the public have expressed a need for recreational access to many additional public land areas. The opportunity to fully enjoy these areas is presently not being realized.

Off-road Vehicle Use

The 70 acre closure in the South Hills resolves conflicts between landowners and recreationists. Leaving 1,200 acres open in the South Hills area provides an opportunity for ORV recreationists living in or near Billings. The limited designation in the Pryor Mountain and Acton areas (55,800 acres) has only a minor impact upon recreation use in those areas.

Wilderness

Recreation activities (motorized use) may not impair wilderness suitability and may therefore be restricted. This impact is insignificant on an areawide basis.

Conclusion

Proposed actions under the grazing management, wild horse and wildlife issues would result in a moderate significant improvement in range and wildlife habitat. Wildlife populations would increase, providing additional

hunting opportunities. Fencing proposals would have a minimal impact on recreation as long as cattle guards or gates are properly placed. Establishing new warm water fisheries near Billings would have a significant impact on recreational opportunities in the area. Oil and gas leasing stipulations, and C&MU classifications help protect recreational values from damage.

If legal access is not provided for the seven areas currently lacking access, significant recreational opportunities would continue to be unavailable to the general public. Off-road vehicle designations generally favor recreational uses by resolving conflicts.

There would be no irretrievable or irreversible loss of recreation resources in this alternative.

Visual Resources

Grazing Management

The grazing management impacts to visual resources would be insignificant. Most of the proposed range improvement projects are located in Class III and IV landscapes. The four proposed reservoirs would create moderate visual impacts in the short term, but in the long term, the visual impacts would be positive because of increased vegetative composition and improved watershed conditions. The 19 water catchments would also result in moderate visual impacts. An insignificant negative impact would result if 21 miles of pipeline, 9 wells and 13 miles of fence were constructed. All of these developments would meet Visual Resource Management (VRM) class guidelines. Large numbers of surface disturbances are not anticipated in any given area.

Wild Horse Management

Range improvement proposals would result in minimal impacts to visual resources. The five water catchment projects would create moderate negative impacts. These projects would be distributed throughout the PMWHR. The presence of wild horses is aesthetically pleasing to visitors and is a significant positive impact.

Wildlife Management

The Continuation of Existing Management Alternative would have a minimal impact on visual resources. A moderate negative impact would be anticipated with the placement of 12 water catchments, 20 waterfowl nesting islands and 7 reservoirs. The ½ mile of fencing proposed would result in a slight negative impact. Fencing selected riparian zones and reservoirs would increase vegetation and improve scenic quality.

Timber Management

The impacts of timber management on visual resources under this alternative would be minimal on the resource area's visual resources. The activities associated with small acreages of timber harvest (45 MBF) would meet the VRM class guidelines.

Coal

The existing levels of coal mining would result in continuing negative impacts to the visual resources. Even though the amount of surface disturbance (1 1/2 acres annually) is small, it could be a significant impact in a very localized area and would not conform with visual resource management class guidelines in the short term. The long-term impacts would be minimized with reclamation to approximate the original contour as required by state and Federal law.

Oil and Gas Leasing

The existing levels of mineral leasing would result in minimal impacts to the visual resources. The 49,870 acres leased under special stipulations have built-in mitigative measures. Development associated with this activity would be accomplished within the guidelines for the VRM classes.

Classifications

The segregation of 28,586 acres in the Pryor Mountain area from mineral entry is beneficial, and would preserve the visual qualities of the area. Activities associated with mining could have a major negative impact on the visual landscape.

Off-road Vehicle Use

The 55,870 acres under limited or closed designations would protect visual resources.

Environmental Education

Existing levels of management would have insignificant impacts to visual resources.

Conclusion

The cumulative negative impacts to visual resources from grazing, wild horse, wildlife and timber management would be insignificant with this alternative. The proposed range developments would have a short-term negative impact. Coal development impacts could have a significant short-term impact in a very localized area, but would be mitigated by proper reclamation procedures in the long term. Oil and gas leasing would result in insignificant impacts to the visual resource.

The continuation of off-road vehicle restrictions would have a positive significant impact on the visual resources.

There would be no irretrievable or irreversible loss of visual resources in this alternative.

Cultural Resources

Grazing Management

Constructing reservoirs, water catchments, pipelines and wells would disturb 61 acres. One cultural resource site may be encountered and would be avoided.

Wild Horse Management

Water catchment construction will disturb 3 acres. There is less than 1% probability of encountering cultural resources.

Wildlife Management

Water catchment construction would disturb 6 acres. There is less than 1% probability of encountering cultural resources.

Timber Management

Cutting 20 acres of timber a year would disturb 500 acres in the long term. There is a 78% probability of encountering a site. The site would be avoided.

Coal

Six acres would be disturbed in the short term. There is less than 1% probability of encountering cultural resources.

Oil and Gas Leasing

Drilling 10 wells a year would disturb 500 acres in the long term. Two cultural sites may be encountered and both would be avoided.

Land Tenure Adjustment

The disposal of 3,570 acres may impact 20 sites. Based upon current inventory information and professional judgment, it's assumed that 5% of the sites located within the current assessed disposal area would be highly significant and/or rare, and best kept within Federal ownership. Therefore, one site would be avoided through ownership retention. The 19 remaining sites may or may not qualify for the National Register of Historic Places. Those that do would be mitigated if the budget permits (see Appendix 1.10), or transferred out of Federal ownership after consultation with the Advisory Council on Historic Preservation per 36 CFR 800. Those that do not qualify would be transferred along with the acreage. Any increase in acreage beyond what is already quantified is impossible for the BLM to assess at this time.

Off-road Vehicle Use

Except for restricted areas, the BLM is unable to quantify ORV impacts to sites on the majority of lands in the resource area open to such use. However, vandalism, and site deterioration may result from ORV traffic.

Conclusion

Anything less than 5% probability of encountering a cultural site has not been computed.

The proposals in this alternative would disturb or impact 4,646 acres. Twenty-four sites would be encountered. Five sites would be avoided and 19 sites mitigated or transferred out of Federal ownership. Any cultural site inadvertently destroyed in this alternative would be irretrievably and irreversibly lost. The impacts to cultural resources are considered to be insignificant due to mitigating practices.

Wilderness

Grazing Management

Twin Coulee WSA—There would be no significant impacts to existing wilderness values from ongoing or proposed grazing management actions. Only 600 acres of the study area are used for livestock grazing with 69 AUMs licensed. There are no specific proposals for range improvement projects.

Pryor Mountain WSA, Burnt Timber Canyon WSU, Big Horn Tack-On WSU—There would be no impact on wilderness values as none of the lands in the three study units are licensed for domestic livestock grazing.

Wild Horse Management

Pryor Mountain WSA, Burnt Timber Canyon WSU and Big Horn Tack-On WSU—There would be no significant impacts to the wilderness qualities from the existing wild horse management program. One water catchment is proposed for the Pryor Mountain WSA. It is likely this catchment could be built without impact to the apparent naturalness of the area.

Timber Management

Twin Coulee WSA—Timber management in the Twin Coulee WSA would not significantly impact the wilderness qualities, as no timber sales are planned.

Pryor Mountain WSA—Six hundred acres including 5 million board feet of timber is not within the "protection area" and has the potential for timber harvest. Such harvesting would have major impacts to the wilderness qualities in the northern portion of the area.

Burnt Timber Canyon WSU, Big Horn Tack-On WSU—There would be no impacts from timber harvest as there are no identified sales sites and the timber is classified as protected.

Oil and Gas Leasing

Twin Coulee WSA—There would be no significant impacts to wilderness values from the ongoing oil and gas leasing situation. The Twin Coulee area is under lease application. The BLM considers the potential for discovery of oil and gas reserves to be low. If leasing were to occur, wilderness protection stipulations would be attached and any impacts occurring would not be impairing.

Pryor Mountain WSA, Burnt Timber Canyon WSU, Big Horn Tack-On WSU—Presently, there are no oil and gas leases in the three Pryor Mountain area WSA and WSUs. The BLM considers the potential for discovery of oil and gas reserves to be low. The potential for impacts is considered small. If leasing did occur, it would be with no surface occupancy stipulated. This would further decrease the potential for impacts.

Wilderness Manageability

Twin Coulee WSA—This alternative would mean no action on wilderness designation of this WSA. There would be no wilderness protection for 6,870 acres of public land. The area would, however, likely retain its wilderness character, at least in the short term.

As described in Chapter 3, Wilderness Quality, this area does not contain high wilderness values or special features and would not provide outstanding quality or diversity to the National Wilderness Preservation System. In the long term, even though wilderness values could be reduced or destroyed by timber harvest or mineral development, those developments would not create the loss of an outstanding wilderness resource.

Pryor Mountain WSA, Burnt Timber Canyon WSU, Big Horn Tack-On WSU—This alternative would mean no action on wilderness designation of these three study units. There would be no wilderness preservation for 16,927 acres in the Pryor Mountain Unit, 3,955 acres in Burnt Timber Canyon Unit and 4,550 acres in the Big Horn Tack-On Unit.

Wilderness values are particularly outstanding in the Pryor Mountain and Burnt Timber Canyon areas where size, screening and lack of both on and offsite impacts create outstanding solitude and primitive recreation opportunities. Both of these areas would offer outstanding quality and diversity to the NWPS. The opportunity to include these areas in the NWPS would be foregone with this alternative. However, it's unlikely that management of these areas would change substantially since present management of the wild horse range is in keeping with preservation of wilderness values.

Conclusion

This alternative would have no short-term significant impacts on wilderness values in the Twin Coulee WSA. There are 166 mining claims in Twin Coulee located for metalliferous minerals and there is a potential oil shale resource, but neither are presently economically feasible to develop. There is a potential for future impacts on wilderness values if the prices of certain metals or oil rise. Because of low wilderness quality, only a limited opportunity to enhance the quality and diversity of the NWPS would be foregone.

The Burnt Timber Canyon and Big Horn Tack-On Units would retain their natural character in both the short and long term with this alternative. There are no proposals under any of the multiple resource uses of these lands which would significantly damage existing wilderness values. There is the potential for some significant impacts to the northern part of the Pryor Mountain

WSA if 5 million board feet of commercial timber on 600 acres were harvested. Because of the quality of the wilderness resource, particularly in the Pryor Mountain WSA and Burnt Timber Canyon Unit, the opportunity to add to the quality and diversity of the NWPS would be foregone.

This alternative could result in the potential loss of some wilderness values in the Twin Coulee and Pryor Mountain WSAs during the long term if timber harvest were to occur. These losses are neither irreversible or irretrievable.

Social

Grazing Management

The social well-being of the families dependent upon the 28 affected ranches would improve in the long term. Ten of these operations fall into the small herd size category where the positive effects would be proportionately greatest. The attitudes of affected ranchers would be favorable because of the long-term increases in AUMS.

Attitudes Toward the Alternative

No specific information on the attitudes toward this alternative has been collected. Individuals who feel the BLM should maintain existing management levels would approve of the plan.

Based on the attitudes toward specific issues (Chapter 3, Social and Economic Conditions) it appears those individuals and groups concerned with environmental protection would favor the elimination of the acreage available for coal leasing, the restrictions on timber harvest and oil and gas leasing, and the continued use of the Ah-Nei Site for environmental education. They may oppose the plan to propose no land for wilderness designation.

Individuals and groups concerned with resource development would oppose the elimination of the coal available for leasing. They may favor not designating lands as wilderness.

Ranchers would react positively toward this alternative because it increases the AUMS available for livestock with a minimal increase in governmental presence and control. Ranchers would favor the existing level of land sales and exchanges done for their benefit. Those ranchers concerned about the impact of coal development on their lifestyle would favor this alternative.

Recreationists may perceive that the BLM is failing to respond to their demand for increased access in this alternative. However, they would favor the minimal increases in hunting and fishing opportunities.

Individuals who favor the development of the Wind-drinker Site interpretive site would not favor this alternative. Those who favor no control of the wild horse population, might also react negatively to this alternative.

Conclusion

The social well-being of the families dependent upon the 28 affected ranches would be improved in the long term. Attitudes toward the alternative would be mixed; those who favor maintaining existing management levels would approve of the plan.

Economics

Grazing Management

Ranch Related Economic Impacts—See Appendix 4.8 for an explanation of the methodology used in this section.

The overall short-term impact on ranch income in this alternative would be minimal. This is because the only identifiable change in AUMs would be the temporary disruption of grazing, as mechanical treatments are applied or grazing systems implemented.

In the long term, 28 ranches would show increases in income due to a 19% increase in BLM AUMs. These increases are shown in Table 4.2 by representative size category. The average change in net annual income for the representative livestock categories ranges from an increase of \$187 on small operations (7% of their current livestock income) to \$1,203 on very large operations (2% of their current livestock income).

TABLE 4.2: ESTIMATED LONG-TERM IMPACTS OF THE CONTINUATION OF EXISTING MANAGEMENT ALTERNATIVE ON NET ANNUAL RANCH INCOME ON AFFECTED RANCHES

Ranch Size Category	Size by # of Brood Cows	# of Ranches	Average Increase BLM AUMs Per Ranch	Average Annual Net Income Per Ranch	Change in Income \$	Change in Income %
Small	1-100	10	36	\$2,846	+187	+6.6
Medium	101-250	6	93	\$10,662	+605	+5.7
Large	251-499	4	125	\$24,501	+800	+3.3
Very Large	500-up	8	188	\$65,341	+1,203	+1.8

Source: BLM, 1982



Greater income, because of increases in BLM forage, would improve the economic well-being of operators in a number of ways. Those who might have diverted funds to allow for depreciation, deferred maintenance or deferred principal and interest payments would be in a position to use more funds for these purposes. Increased income might also be used to raise the living standards of some operators.

There would be no short-term change in permit value. In the long term, grazing permit values would increase an average of \$3,600 for the small operations, \$9,300 for the medium size operations, \$12,500 for the large operations and \$18,800 for the very large operations. This represents a 19% increase in grazing permit value for each representative category. These increases would have a beneficial effect on ranchers' borrowing ability and the sale value of affected ranches.

Timber Management

The existing annual cut of 45 MBF would continue to meet local demand for BLM timber and would have no impact on earnings and employment related to wood products. The current annual cut is less than 1% of the total volume received by sawmills in the resource area for 1981.

Coal

The two existing coal mines in the Bull Mountains each produce approximately 10,000 tons of coal per year. Both mines serve southern Montana for domestic purposes and light industry. This alternative would continue the present production level to satisfy local demand. No impact to employment or earnings would occur, except the continuance of present employment.

Land Tenure Adjustment

To continue adjusting the land pattern at the same level would have little or no impact on the economy of the area.

Wilderness

With this alternative the study areas and units would not be recommended for wilderness designation and the present resource use and management direction would continue. There would be no impact to ranch related income and no additional timber or mineral values foregone with this alternative.

Conclusion

Continuation of the Existing Management Alternative would have little or no impact to the economy of the area in the short term. In the long term, 28 ranch operations would have increases in income due to increases in BLM AUMs. These income increases range from an average of 7% for small operations to 2% for large operations.

There would be no irreversible or irretrievable loss under this alternative.